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ORIGINAL ARTICLE

A Knowledge, Attitude, and Practice (KAP) Study on Seating Preferences in Lecture Halls Among Second Year Medical Students

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Abstract
Background: The design and architecture of a lecture hall, along with students' seating preferences, the aesthetics of the space, and the ergonomics of classroom furniture, collectively influence a student's learning experience. Irrespective of the quality of teaching and high efforts put by instructors, it is a common trend among medical students to avoid sitting in the first rows of classes unless compelled to do so. The persistent challenge of encouraging students to occupy the front rows prompted us to address this issue systematically through a KAP study, aiming to investigate the underlying reasons in a scientific manner. ***Aims and objectives:*** The aims of this study are to discern the factors influencing students' avoidance of the first rows and their preference for alternative seating in lecture halls. The specific objectives include investigating the rationale behind favouring the last rows, identifying the types of lectures that students find most engaging, exploring the relationship between personality types and a preference for the back rows, and assessing perceived disadvantages associated with sitting at the rear. ***Methodology and Results:*** A semi structured questionnaire was used for data collection from second year MBBS students and a total of 158 students responded. Approximately 63.3% of students believe sitting in the last rows might have disadvantages, while others see no drawbacks. Most students (66.5%) prefer the middle rows for an optimal learning distance, feeling neither too far nor too near, and a sense of safety. The second choice is the last rows (13.9%) for freedom, comfort, creativity, and less distraction. The first rows rank third (12.7%) for being less distracting, increased interaction, and academic motivations (16.3%). ***Conclusion:*** In conclusion, our study finds that students prefer backbenches for comfort and ergonomic benefits, while avoiding front benches may be linked to distancing from authority figures. There's a preference for traditional teaching methods and some interest in small group sessions. Central rows are favoured for evading direct attention. This study pioneers understanding seating factors among medical students, suggesting avenues for future research.

Keywords: Medical education, Adaptive learning, Seating preferences, Learning environment, Traditional teaching methods.

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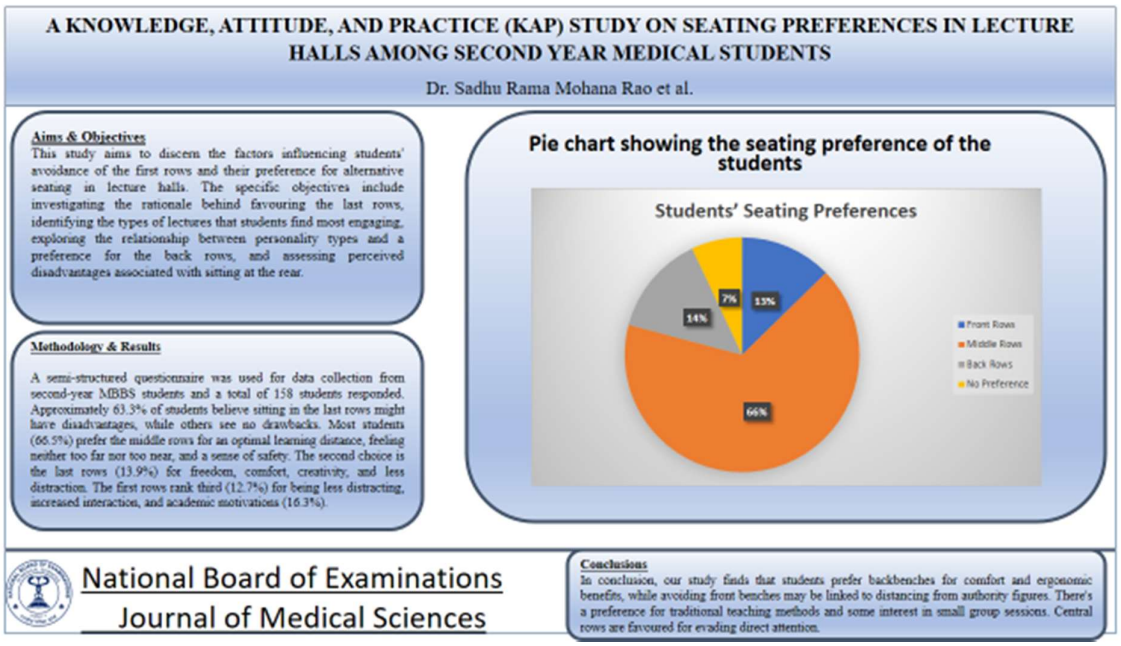
Graphical Abstract



Introduction

In the era of the post pandemic digital revolution, where learning can occur at one's own pace and time, and with the abundant availability of online platforms offering instruction for both university exams and competitive exams for joining postgraduate courses, traditional classroom teaching, particularly didactic lectures, is gradually losing relevance. Nevertheless, the National Medical Commission (NMC) mandates the inclusion of a substantial number of lectures in the undergraduate medical curriculum apart from small group discussions. While knowledge can be acquired through virtual platforms, physical lectures and bed side clinics serve as a means of imparting a wealth of practical experience in a structured manner with human touch. This parallels the distinction between watching a movie and attending a live performance, perhaps serving as a fitting analogy. We have consistently observed that medical students at our institute prefer to vacate the front rows of the lecture halls and attempt to secure seats towards the rear. We have contemplated conducting a scientific study to analyse this pattern and propose potential solutions.

Methodology

A brainstorming session involving several small groups of second-year medical students was conducted to explore the reasons behind their reluctance to occupy the front rows. Subsequently, the majority of students expressed their willingness to participate in the proposed research aimed at understanding these reasons in better fashion. It was revealed that they still perceive classroom contact teaching as an effective method that can enhance their exam performance and overall learning experience. Following a series of informal consultations with all stakeholders, a semi structured measurable questionnaire was prepared. The questionnaire was finalized after review by an expert member of the Medical Education Unit (MEU) at our institute, i.e. Andhra Medical College, Visakhapatnam, India. The self-answerable questionnaire was

administered to a batch of second-year professional students at our institute by creating a Google Form, and responses were recorded during the months of July to September 2023. Students of both genders of the age group 18-22 were part of the study.

This study aims to understand the reasons behind students' tendency to avoid the first rows and choose alternative seating in lecture halls. The objectives include investigating why students prefer the last rows, identifying the lecture types they find most engaging, exploring the connection between personality types and a preference for the last rows, and assessing any perceived disadvantages associated with sitting at the back.

The lecture halls under discussion deviate from the typical auditorium setup/gallery setup, featuring a large, ordinary hall with wooden benches placed uniformly on the same level. The audiovisual systems and acoustics of the lecture hall are of normal standard, and the seating type involved is in rows. The seating capacity of each lecture hall is about 125-150 students. About 125 students sit in each lecture hall in general.

The study aimed at analysing the student seating preferences pertaining to traditional lectures only, we did not attempt to study student seating preferences for Small Group Discussion (SGD) method of teaching.

Results

Out of the 250 students approached, only 198 students confirmed their willingness to participate in the study. Among them, only 158 students ultimately responded and provided consent for their information to be included in this publication.

For the question about preferred seating position in the classroom, among the 158 responses received, it was found that 66.5% of students prefer the middle rows, 13.9% prefer the last rows, and over 7% indicated no specific preference for their seating arrangement.

Approximately 63.3% of students expressed the belief that sitting in the last rows could have potential disadvantages. In contrast, the remaining students held the opinion that there was no evident drawback for them associated with such seating.

Among the 158 responses gathered, 46.8% of students stated that sitting in the last rows does not have any impact on their academic performance. A smaller percentage, 12%, indicated that their academic performance is affected when sitting in the last rows. The remaining 41.1% mentioned that there are only certain situations when their academic performance is influenced by this seating choice.

56.3% of respondents answered affirmatively to the question of whether they have ever been asked by a teacher to change their seat. The reasons for the seat change requests by the teacher are multiple which include the student disturbing others, not paying attention to the class, talking too much, using phone etc.(students selected multiple of these options)

Among the 158 students surveyed, 22.2% believed that assigned seating arrangements in lecture halls could enhance academic performance, while 45.6% expressed the view that such arrangements offer no discernible benefit. Additionally, 32.3% of students were uncertain about the advantages of assigned seating in lecture halls. The answers to the secondary questions under this question are shown in the Figures 1 and 2.

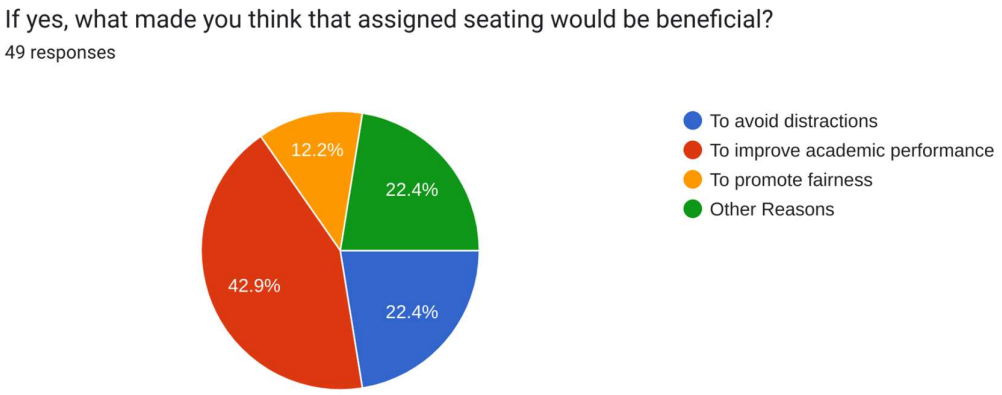


Figure 1. Showing reasons why students wished to have assigned seating in classrooms.

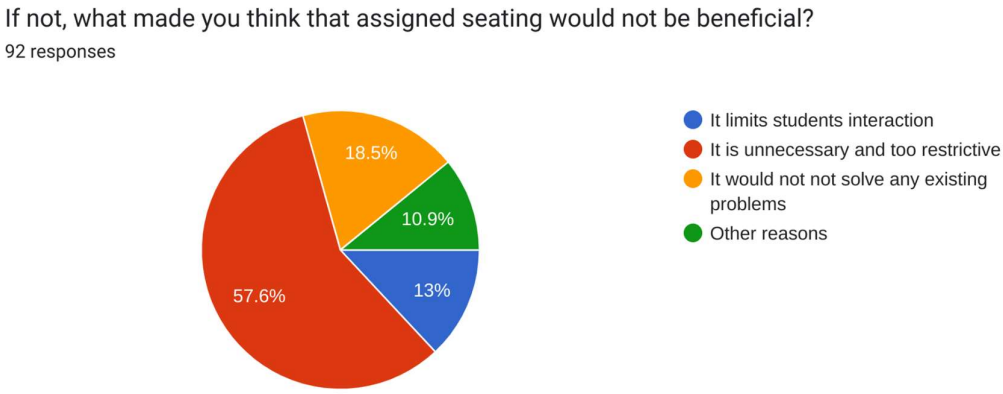


Figure 2. Showing reasons why students wished not to have assigned seating in classrooms.

In response to the question regarding whether the seating arrangement affects relationships with classmates, out of 158 responses, 46.2% indicated that it would affect their relationships, 36.1% stated that it would not have an impact, and 17.7% responded that it might occasionally or very rarely affect their relationships.

In response to the question on whether sitting in last rows effects their learning, 39.9% replied in negative, 12.7% replied in positive, and 47.5% replied that it depends on the subject and the teacher, and they don't have a simple answer for the question.

The reasons for choosing to sit in different areas of a lecture hall were as varied and interesting. Most of the students opined that there are always more than one reasons for their choices. However, 7% of the students did not have any particular preference as mentioned above.

Students' seating preferences are predominantly directed towards the middle rows (66.5%). The key factors influencing this choice include an optimal learning distance , a perception of neither being too far nor too near, and a sense of safety in that position. A smaller percentage mentioned that they had a personal preference for the middle rows for no specific reason.

The second most favoured choice is the last rows (13.9%). Reasons for this preference include the desire for freedom of

movement and the ability to stretch legs, finding the seating arrangement more comfortable , and a belief that sitting at the back allows for greater creativity and independence during the lecture. A few students also mentioned finding it interesting to observe the architecture of the lecture hall and some of them also answered they are not interested in theory classes while others mentioned it is less distracting to sit in the last rows.

Table 1 shows the role of instructor related factors in student seating plan/preference in the lecture halls.

The first rows rank third in preference (12.7%). Students opting for the first rows cited reasons such as perceiving them to be less distracting, the absence of competition for these rows, increased interaction with the presenter, and a desire to boost academic scores. Other factors include a fear of the lecturer, personal preference, and considerations related to hearing and vision problems.

Table 1: Students replies to questions on the factors pertaining to the instructor influencing their seating plan.

Question 1	**In what type of lecture do you prefer the first bench over the last?**
	Lecturer using chalk and board- 34.8%
	Lecturer using presentation and explaining more clearly- 26.6%
	Lecturer interacting with the students by discussion - 24.1%
	Lecturer using presentation and reading it like a news reader-11.4%
	Lecturer is just showing the first page of presentation without slideshow and interacting 3.1%
Question 2	**What kind of class do you think is more interesting for you?**
	Lecturer using presentation and explaining more clearly- 37.3%
	Lecturer using chalk and board- 29.7%
	Lecturer interacting with the students by discussion- 29.1%
	Lecturer just showing the first page of presentation without slide show and interacting -3.9%

47.5% of students said that they were introverted and independent. 24.7% of the students opined that they were outgoing and social type, 27.8% preferred not to fix their personality as a particular type.

44.3% students opined that their student's personality doesn't have a role in choosing a seat in the lecture hall whereas 36.1% students opined that an outgoing and social kind of an individual would prefer the last rows over the first rows. Similarly, 19.6% students opined that introverted and independent students would prefer last rows over the first rows.

Among the 158 students surveyed, the majority, 75.3%, reported trying to sit in a different seat than their preferred one. A smaller percentage, 15.2%, mentioned having done so rarely, while the remaining 9.5% stated that they have never changed their seat in class.

Among the 158 students surveyed, a significant majority, approximately 83.5%, emphasized the importance of individual

preference in choosing their seating position.

Out of the respondents, 67.7% identified as visual learners, 24.05% leaned towards auditory learning, and only 8.25% expressed a preference for kinaesthetic learning.

The detailed responses of students for the reason of avoiding front rows are tabulated in the Table 2 below.

Table 2. Showing the reasons for preferring last rows by medical students in lecture halls.

S.No	Reason	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Fear of being called on/questioned by the teaching faculty	21.5%	58.2%	18.4%	1.9%
2	Need for being too much attentive all the time	23.4%	60.1%	15.2%	1.3%
3	Strong urge to use mobile phone during the lecture	4.4%	34.2%	44.9%	16.5%
4	To goof around with peers	3.8%	39.9%	46.8%	9.5%
5	To avoid authority figures in class/college noticing me	7%	44.9%	43.7%	4.4%
6	I usually prefer to sit at the same spot just because I am comfortable	19.6%	58.2%	20.3%	1.9%

Discussion

This study in an Indian medical college is the first of its kind, focusing on seating preferences and their impact on student learning experiences. Previous research indicates that seating arrangements play a crucial role in classroom dynamics. For instance, a study revealed that a semicircular seating arrangement outperformed rows-and-columns in terms of communication affordance, concentration maintenance, and overall classroom environment integration during Collaborative Learning (CL) activities [1]. Surprisingly in another study the outcomes of the multilevel modelling analysis revealed greater interaction intensity in rows compared to circles. However, the field of study and the facilitator engagement were considered relevant influencing factors for outcomes [2]. There are other studies which investigated on the preferences between traditional, horseshoe or modular arrangements in the class rooms and discussed about the factors like attractiveness of the course and student apprehension levels as important factors that could influence preferences [3].

The results of the present study emphasize important aspects such as fear and apprehension among students towards authority figures and instructors, highlighting the impact of a culture of paternalistic teaching methods on students' choices to some extent. Most students preferred to sit in the middle rows, aiming for what they perceived as a safe area that is optimal—neither too close to the instructor nor too far away. Students, in general, opposed the idea of assigned seating, indicating a more democratic desire for freedom of choice.

While many students believed that sitting in the rear rows might have some disadvantages, they thought that the subject and instructor were more significant factors affecting their learning than simply sitting in the last benches. Notably, most students identified as visual learners and expressed a

preference for a well-designed PowerPoint presentation with an interactive instructor for effective learning. However, they also expressed an appreciation for traditional chalk and board teaching methods and small group discussions.

In some studies, it has been put forward that culture plays a crucial role in students' seating preferences, particularly in achieving person-environment congruence through good aesthetics and facilitative learning approaches [4]. This raises a serious question for us to incorporate more democratic and adaptive learning methods in our teaching activities.

Students with similar personality characteristics tend to prefer central seats, and personality has been shown to play a role in seating preferences [5]. While we did not assess students' personalities scientifically, according to them, it is not the most important factor influencing their seating preferences

In a similar study, it was observed that sitting farther from the instructor had a detrimental effect on students' grades, resulting in a reduction of 0.75 percentage points per row [6]. However, such a belief and feeling do not exist in the participants of our study, but the likelihood of it needs to be investigated in pupils who habitually sit in the rear benches.

The utilization of a flipped classroom represents a viable and beneficial alternative to the conventional classroom approach. This methodology accommodates the preferences of Generation Y for active learning within a group dynamic, all the while retaining a traditional format for the initial presentation of information. This pedagogical approach has been recognized as both feasible and advantageous [7,8].

While gallery-style lecture halls are commonly favoured by both students and faculty, the conventional setup of accommodating 250 students in such a space presents challenges. The potential for student distraction and limited eye contact between the teacher and individual students diminish the effectiveness of traditional teaching methods in this setting. To address these concerns, there is a need for a redesigned space that incorporates strategic placement of screens throughout the classroom, ensuring better engagement.

In the realm of medical education, a spectrum of innovative teaching methods has emerged to enhance the learning experience for students. Embracing Problem-Based Learning (PBL), Simulation-Based Learning, and the Flipped Classroom approach encourages critical thinking, practical application of knowledge, and interactive participation of students. Team-Based Learning (TBL) fosters collaboration, while Interactive Lectures with Technology and E-Learning Modules harness digital tools for engaging and dynamic lessons. Incorporating Peer Teaching, Objective Structured Clinical Examinations (OSCEs), and Reflective Journaling further enriches the educational journey. Interprofessional Education (IPE) brings diverse healthcare disciplines together for comprehensive learning experiences. Notably, these strategies are very important in the current scheme of Competency-Based Medical Education (CBME) prescribed by NMC. As educators, staying updated on these methodologies is paramount, ensuring that our teaching practices evolve to meet the demands of contemporary medical education, ultimately equipping students with the skills essential for the dynamic healthcare landscape.

Conclusion

In conclusion, our study reveals that students favour backbenches primarily for the heightened comfort and ergonomic

advantages they offer during extended durations, alongside various other considerations. Conversely, the avoidance of front benches appears to be associated with a desire to distance oneself from authority figures in the classroom, among other reasons. Students also express a preference for traditional teaching methods and, to a certain extent, small group sessions. Notably, central rows emerge as the favoured seating area, seen as an optimal location to evade direct attention from the teacher while still staying within the zone of involvement.

This study stands as a pioneering effort in understanding the intricate factors that shape seating preferences among medical students in lecture halls. The insights gained offer valuable directions for future researchers, urging them to delve into various dimensions, including student and instructor variables, as well as aspects of aesthetics and design, all of which have potential implications on student seating preferences and, subsequently, their learning and performance outcomes. Ther is also a need to study the influence of cultural and socioeconomic backgrounds on seating preferences and how it impacts student learning. Lastly, a great deal of research is necessary to adapt and refine medical education methods for the Gen Z student!

Acknowledgements

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Limitations

We have not delved into the design of the lecture hall or the types of seat arrangements. Aesthetics, ergonomics, and furniture aspects were not considered in our study. The words survey and questionnaire were used synonymously in the text. Similarly, we did not research about student seating preferences in small group discussions.

Conflicts of Interest

None to declare.

Ethical Considerations

Addressed by the authors.

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References

1. Yang X, Zhou X, Hu J. Students' preferences for seating arrangements and their engagement in cooperative learning activities in college English blended learning classrooms in higher education. High Educ Res Dev 2022;41:1356–71. https://doi.org/10.1080/07294360.2021.1901667.
2. Nehyba J, Juhaňák L, Cigán J. Effects of seating arrangement on students' interaction in group reflective practice. J Exp Educ 2023;91:249–77. https://doi.org/10.1080/00220973.2021.1954865.
3. McCorskey JC, McVetta RW. Classroom seating arrangements: Instructional communication theory versus student preferences. Commun Educ 1978;27:99–111. https://doi.org/10.1080/03634527809378281.
4. Haghighi MM, Jusan MM. Exploring students behavior on seating arrangements in learning environment: A review. Procedia Soc Behav Sci 2012;36:287–94.

https://doi.org/10.1016/j.sbspro.2012.03.032.
5. Totusek PF, Staton-Spicer AQ. Classroom seating preference as a function of student personality. J Exp Educ 1982;50:159–63. https://doi.org/10.1080/00220973.1982.11011818.
6. Will P, Bischof WF, Kingstone A. The impact of classroom seating location and computer use on student academic performance. PLoS One 2020;15:e0236131. https://doi.org/10.1371/journal.pone.0236131.
7. Gillispie V. Using the flipped classroom to bridge the gap to generation Y. Ochsner J 2016;16:32–6.
8. Harden RM, Laidlaw JM. Essential Skills for a Medical Teacher. An Introduction to Teaching and Learning in Medicine. 3rd ed. Elsevier; 2021. Poland.